

## In the Claims

1. (currently amended) A method for scheduling packets in a router of a packet-switched network having a plurality of service classes, the router including one queue for each service class, each queue storing packets to be transmitted according to the associated service class, comprising:

measuring an average queue length for a particular one of the queues every time one packet is stored in the particular queue; and

allocating bandwidth to each of the plurality of service classes according to the average queue length.

2. (original) The method of claim 1 wherein the plurality of services classes include a premium service, an assured service, and a best-effort service, and wherein the particular queue is associated with the premium service class.

3. (original) The method of claim 1 wherein the average is an exponential weighted moving average.

4. (previously presented) The method of claim 3 further comprising:  
applying a low-pass filter to the exponential weighted moving average.

5. (cancelled)

6. (original) The method of claim 1 wherein  $avg$  is the average queue length, and  $l$  is an instantaneous queue length, and  $f_l$  is a low-pass filter, and wherein the average queue length is determined by  $avg \leftarrow (1 - f_l) \cdot avg + f_l \cdot l$ .

7. (original) The method of claim 6 wherein  $f_l$  is 0.01.

8. (original) The method of claim 1 wherein the particular queue includes a minimum threshold and a maximum threshold, the maximum threshold representing a desired transmission delay, and the maximum threshold representing an acceptable transmission delay.

9. (original) The method of claim 8 wherein bandwidth for the service class associated with the particular queue is increased when the average exceeds the minimum threshold.

10. (original) The method of claim 9 wherein the bandwidth allocated to the service class remains below a predetermined upper limit when the average exceeds the maximum threshold.

11. (original) The method of claim 1 wherein the plurality of services classes include a premium service  $EF$ , and wherein the particular queue is associated with the premium service class, and wherein the particular queue includes a minimum threshold  $T_{min}$  and a maximum threshold  $T_{max}$ , the maximum threshold representing a desired transmission delay, and the maximum threshold representing an acceptable transmission delay, and wherein  $avg$  is the average queue length, and  $l$  is an instantaneous queue length, and  $f_l$  is a low-pass filter, and wherein an initial weight of bandwidth for the premium service is  $w_p$ , and an allocated bandwidth weight  $EF_w$  of the premium service, as a function of  $avg$  is

$$EF_w = \begin{cases} w_p, & avg \in [0, 0.5) \\ \frac{(upper - w_p) \cdot (avg - T_{\min})}{T_{\max} - T_{\min}}, & avg \in [0.5, 2) \\ upper, & avg \in [2, s) \end{cases}$$

where *upper* represents a predetermined upper limit when the average exceeds the maximum threshold, and *s* is a size of the particular queue measured in packets.

12. (original) The method of claim 11 where *upper* is 0.7.

13. (currently amended) A method for scheduling packets in a router of a packet-switched network having a plurality of service classes, the router including one queue for each service class, each queue storing packets to be transmitted according to the associated service class, comprising:

measuring an exponential weighted moving average queue length for a particular one of the queues every time one packet is stored in the particular queue; and

allocating more bandwidth to the service class associated with the particular queue if the average exceeds a predetermined minimum threshold.